

NOTES ON THE ECOLOGY AND DISTRIBUTION  
OF WESTERN CERAMBYCIDAE (COLEOPTERA)

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## ABSTRACT

Previously unrecorded larval hosts, adult habits, and distributional data are presented for 63 species of Cerambycidae from western North America. An unusual population of *Tragidion coquus* (Linnaeus) is discussed and compared to *Tragidion annulatum* LeConte and *Tragidion auripenne* Casey. The attraction of *Tragidion peninsulare californicum* Linsley to fire is recorded. *Parevander xanthomelas* (Guerin) and *Anoplocurius incompletus* Linsley are recorded for the first time from the United States. Comparative habits or taxonomic differentiation are discussed for an additional 20 species.

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Although the cerambycid beetle fauna of the western United States has been actively studied for many years, life histories of many species remain either unknown or unrecorded.

Recent monographic treatment of the family by Linsley (1962a, 1962b, 1963, 1964) and Linsley & Chemsak (1972) has greatly facilitated identification of material, and several annotated lists, dealing primarily with species already treated in the monograph, have subsequently appeared (Tyson 1966, 1970; Penrose & Westcott 1974). The field and rearing information assembled herein is generally supportive of the monograph, primarily representing unrecorded larval hosts and adult habits or significant new distributional data.

Specimens accumulated during these investigations are in the collections of the authors, Los Angeles County Natural History Museum, Placerita Canyon Nature Center, California State University Northridge, and the private collections of individuals cited in the acknowledgements.

## PARANDRINAE

*Parandra marginicollis marginicollis* Schaeffer. Linsley (1962a) records this species as occurring beneath bark of *Platanus* and *Alnus* in southern California. In the San Fernando Valley, Los Angeles County, we found it working the heartwood of declining cultivated walnut trees (*Juglans* sp.). The beetles live in large colonies within the hollowed trunks, larvae feeding adjacent to the still-living outer tissue, thereby hastening death of the tree. Heavily infested trees are frequently severely damaged by storms.

## PRIONINAE

*Stenodontes arizonicus* (Casey). Adults are commonly attracted to light in July and August in the mountains of southern Arizona, and have been taken by D. G. Marqua on the trunks of living oak trees (*Quercus* spp.). We found the larvae mining the heartwood of healthy young trees, and adult emergence holes are conspicuous in the lower trunks of older trees.

*Ergates pauper* Linsley. Tyson (1966, 1967) records *E. pauper* from Canyon Oak (*Quercus chrysolepis* Liebm.) and Interior Oak (*Q. wislizenii* A.DC.). To these we add Coast Live Oak (*Q. agrifolia* Nee) and Black Oak (*Q. kelloggi* Newb.). The latter record is somewhat tentative, based upon a single adult emergence hole in the trunk of a dead, standing tree in the San Bernardino Mountains. *E. pauper* is sporadically abundant in the mountains of southern California, ranging from near sea level to above 6000 feet. In the San Gabriel Mountains we found it occurring sympatrically with *Ergates spiculatus spiculatus* (LeConte), which commonly feeds in dead *Pinus ponderosa* Dougl.

*Prionus lecontei* Lameere. This species infests the living roots of oak trees, and is found throughout lower elevations in the Sierra Nevada range and mountains of southern California. We found it to be abundant in the desert foothills, where the larvae are associated with Coast Live Oak and Scrub Oak (*Quercus dumosa* Nutt.). Adults emerge from the bases of infested trees in late summer, and males are commonly attracted to light. In areas of sympatry with *Prionus californicus* Mots., its period of adult activity is generally later than that of *P. californicus*, often extending into early September.

*Prionus heroicus* Semenov. We collected adult females in July from beneath leaf debris at the bases of oak stumps in the Huachuca Mountains of southern Arizona, and it is probable that oak roots serve as the larval food.

*Tragosoma depsarius* (Linnaeus). We cut adults and pupae of this widespread species from decaying trunks of Pinyon Pine (*Pinus monophylla* Torr. & Frem.) near Mahogany Flats in the Panamint Mountains of eastern California. This species was not recorded by Tyson (1970).

## LEPTURINAE

*Xylosteus ornatus* LeConte. A single female of this rarely collected species was beaten by E. F. Giesbert from dead portions of a living Elderberry bush (*Sambucus* sp.) in company with *Desmocerus auripennis auripennis* Chevrolat in July, near Buck's Summit, Plumas County, California.

*Pyrotrichus vitticollis* LeConte. This species has been recorded as breeding in *Acer*, *Alnus*, *Populus*, and *Umbellularia* (Linsley & Chemsak 1972). In southern California we encountered it in abundance in rotting limbs and trunk scars of large willow trees (*Salix* sp.).

*Cortodera stolidus* (Casey). Linsley & Chemsak (1972) record this species as having been beaten from *Juniperus*. Specimens were beaten by G. Walters

from Pinyon Pine in the Panamint Mountains, and by the authors from the blossoms of Canyon Oak in June on the north slope of the San Gabriel Mountains.

*Orthochoriolaus chihuahuae* (Bates). Adults were collected by A. E. Lewis and the authors in July in the Huachuca Mountains on the blossoms of Milkweed (*Asclepias* sp., probably *speciosa* Torr.) Squawbush (*Rhus trilobata* Nutt.), and *Nolina microcarpa* Wats. A few specimens were also taken by beating the outer foliage of oak trees.

*Dorcasiina grossa* (LeConte). This all-black species was reared by C. E. Langston and the authors from the root crown and lower trunk of rotting Incense Cedar (*Calocedrus decurrens* Torr.) from the Greenhorn Mountains, Kern County, California. Several adults were collected by F. T. Hovore from piles of Douglas Fir (*Pseudotsuga menziesii* Mirb.) sawdust at a mill near Inwood, Shasta County.

#### CERAMBYCINAE

*Opsimus quadrilineatus* Mannerheim. This species has previously been recorded as breeding in a variety of coniferous hosts from Santa Cruz County, California, north to Alaska (Linsley 1962b). We collected a series of adults in February from pupal chambers in Monterey Cypress (*Cupressus macrocarpa* Hartw.) near Cambria, San Luis Obispo County.

*Eudistenia costipennis* Fall. Linsley (1933, 1962b) records this species from Canyon Oak and Coast Live Oak. We encountered it abundantly in Canyon Oak throughout higher elevations in the San Gabriel Mountains, the larvae mining beneath the bark of trunks and larger limbs. Larval development apparently takes 2 years or more, with several instars occurring together in a single infestation. The pupal cell lies parallel to the grain of the sapwood, and is plugged to the inner bark surface with a wad of shredded frass and fine, grainy fecula. Pupation occurs in the fall, with adults overwintering in their cells. In the Sierra Nevada we found this species in the trunks of fire-killed Black Oak.

*Paranoplium gracile gracile* (LeConte). This species has a broad host range, our material having been reared from Greenbark Lilac (*Ceanothus spinosus* Nutt.), Laurel (*Umbellularia californica* H & A) and a cultivated species of *Acacia*.

*Eburia falli* Linsley. We have taken this large species throughout the Colorado and Lower Sonoran deserts of California and Arizona, with adults occasionally attracted to light. Larvae mine the heartwood of dying and dead Palo Verde (*Cercidium* sp.), usually in large limbs adjacent to still-living portions of the tree. The life cycle requires 2 or 3 years, with reinfestation of old wood frequently observed. Differing rainfall patterns in southern Arizona and southeastern California sometimes apparently create different seasons of adult activity, as our light-sample records from the Tucson area range from late June to mid-August, while adult emergence in the California deserts rarely occurs before late August or early September.

*Eburia ovicollis* LeConte. Linsley (1962b) records the host of this species as Ebony (*Pithecellobium flexicaule* Benth.). A single male was collected in May by F. T. Hovore as it emerged from a partially-dead branch of Mesquite (*Prosopis juliflora* Sw.) near Pharr, Hidalgo County, Texas.

*Hesperanoplium antennatum* (Linsley). Linsley (1962b) lists *Pinus* as the host for this species, and Tyson (1970) records it from *Cercocarpus ledifolius* Nutt. and *Salix*. We have reared it from Mountain Mahogany (*Cercocarpus betuloides* Nutt.), Toyon (*Heteromeles arbutifolia* M. Roem.), and Holly-leaved Cherry (*Prunus ilicifolia* Nutt.).

The single character used to separate *H. antennatum* from *H. notabile* (Knull), the relative angulation of the pronotal sides, varies in our material from broadly, evenly rounded to distinctly angulate. Although no constant structural characters are apparent by which the two named forms may be differentiated, the *Pinus*-associated material (presumably from the Sierra Nevada) may well represent a biologically valid species, and synonymy without further investigation would seem inadvisable.

*Osmidus guttatus* LeConte. Tyson (1970) records specimens of this species which had been reared from Mesquite in Death Valley, California. We encountered teneral adults in August in dead, dry branches of Palo Verde near Glamis, Imperial County, California, and numerous specimens were subsequently collected at night on this host, as well as on Mesquite and Desert Ironwood (*Olneya tesota* Gray).

*Gnaphalodes trachyderoides* Thomson. A single male emerged from a dead branch of Hackberry (*Celtis* sp.) collected by F. T. Hovore near Pharr, Texas. Adults are commonly attracted to light and have previously been recorded as breeding in a variety of legumes (Linsley 1962b).

*Purpuricenus dimidiatus* LeConte. We found the larvae of this beautiful species partially girdling the bases of small Scrub Oak trees growing on the desert slopes of southern California mountains. The larvae subsequently feed up into the weakened stem, extruding frass and fecula through an open rupture in the bark. This opening is later enlarged and then closed with a plug of fibrous frass, through which the adult emerges. Development requires at least 2 seasons, with feeding larvae and teneral adults encountered together in June.

*Knulliana cincta cincta* (Drury). Linsley (1962b) records this widespread species from a number of hardwood hosts. We reared a large series of adults from recently-burned Mesquite gathered near Rio Grande City, Starr County, Texas.

*Knulliana cincta sonorensis* (Schaeffer). A large series of this distinctive subspecies was reared from dead limb and trunk sections cut by F. T. Hovore from 2 species of oak near Fort Davis in western Texas. Although previously recorded only from southern Arizona and northern Mexico, it was abundant in the higher elevations of the Davis Mountains.

*Tragidion coquus* (Linnaeus). A series of this variably-colored species was collected in October by the authors and R. L. Penrose from blossoms and stems of *Senecio* sp. (prob. *longilobus* Benth.) growing along the highway north of White's City, Eddy County, New Mexico. Adults are apparently strongly attracted to exudates of this plant, feeding in a manner similar to that reported for *Stenaspis solitaria* (Say) by Linsley & Cazier (1962). *Quercus*, the only recorded larval host for this species, was not found by us to occur in the vicinity of the *Senecio* plants, and a cursory examination of several species of woody shrubs yielded no clue as to the host.

We collected numerous additional specimens, tentatively regarded as representing an anomalous population of *T. coquus*, from Composites and

*Baccharis neglecta* Nutt. growing in a small arroyo 19 mi SE Dryden, Terrell County, Texas. While the majority of males have the body and appendages black (as in typical *T. coquus*), a significant number have the intermediate antennal segments broadly annulated with reddish-orange, as in *T. annulatum* LeConte and *T. auripenne* Casey. Male elytral coloration grades from fulvous, as in *T. annulatum*, to orange, as in paler *T. coquus*, but never the deep reddish-orange of *T. auripenne*. Several males have the dark basal elytral band slightly extended posteriorly near the suture, and show faint indication of an antemedian lateral pale spot, as in some *T. coquus*. Females are uniformly black with orange elytra. Also, the posterior tibiae vary from straight to distinctly sinuate, and the tibial pubescence has obscure bluish reflections, as in *T. coquus*. However, the tibiae are not so strongly compressed as those of *T. coquus*, and antennal segments 3 to 6 are feebly carinate apically, 7 to 11 carinate for their entire length, as in *T. annulatum* and *T. auripenne*.

This population clearly demonstrates the very close relationships of the *Tragidion* species with costate elytra, and may well represent a hybrid or intergrade population between *T. coquus* and one of the other 2 species peripheral to its range, *T. annulatum* and *T. auripenne*.

*Tragidion peninsulare californicum* Linsley. The only host for this subspecies thus far recorded is Coast Live Oak (Linsley 1962b). We reared it from Canyon Oak, Scrub Oak, Chamise (*Adenostoma fasciculatum* H & A), Sugarbush (*Rhus ovata* Wats.), Lemonadeberry (*Rhus integrifolia* Nutt.), and Toyon. Adults are strongly attracted to burning vegetation, and we have observed them flying into late summer chaparral brush fires. Larvae are often abundant in charred stems of Scrub Oak, Chamise, and Sugarbush for several seasons subsequent to a fire.

*Tragidion gracilipes* Linsley. This rarely collected species has been recorded as occurring on Coffeeberry (*Rhamnus californica* Esch.) in California as far south as Kern County (Linsley 1962b). Several additional unusual adult records, accumulated from various sources, extend somewhat the distributional range. Unfortunately, none of these observations provide much insight into the habits of this beetle. A single male was collected by F. T. Hovore on a cup at Santa Monica Beach, possibly an adventitious emergence from driftwood, and a female was taken by F. T. Hovore on Rabbitbrush (*Chrysothamnus nauseosus* (Pall.) foliage near Pinyon Hills, Los Angeles County. One specimen was found by D. E. Rich on *Lupinus* blossoms at 6000 feet, Mt. Pinos, Kern County, and another specimen was from inside a gymnasium in Newhall, Los Angeles County.

*Amannus vittiger* LeConte. We collected adults on the blossoms of Mallow (*Sphaeralcea* sp.) in June at several localities in northern Arizona and southern Utah. Although numerous bushes of *Atriplex* spp., the recorded larval host, were examined and beaten at most localities, no larvae or adults were found.

*Batyle knowltoni* Knull. Knull (1968) described this species from a short series of all-black specimens, collected 20 miles southeast of Escalante, Garfield County, Utah. In our long topotypical series, only one individual is predominately black. The other specimens are bright red with the sutural elytral vittae, pubescence, and appendages black.

*Batyle suturalis* (Say). Although Linsley (1962b) does not record this species from Arizona, we collected it in abundance on Composites and Mallow at several localities in Apache County. We have tentatively re-

ferred them to the New Mexican subspecies *rutilans* (LeConte), although some of the specimens are slightly atypical in coloration and punctuation. It is apparent that *B. suturalis* is more widely distributed in this region than has been known, and more extensive collecting will no doubt lead to a taxonomic reassessment of the species. Although the nominate subspecies has been reared from numerous hardwood trees, several of the localities in northern Arizona are in open grassland, many miles from any species of recorded host plant.

*Crossidius humeralis quadrivittatus* Penrose. Adults were abundant in October on the blossoms of *Isocoma* (= *Haplopappus*) *drummondi* (T & G) Greene at Welder Wildlife Refuge, San Patricio County, Texas. The host is distributed throughout the grazed-over grassland plant associations on the refuge.

An additional short series of a phenotypically different population, apparently referable to this subspecies, was collected by R. L. Penrose and F. T. Hovore in western Texas, approximately 6 mi SE Eagle Pass, Dimmit County on *Isocoma coronopifolia* (Gray). Integumental coloration is pale reddish-brown instead of orange-yellow, the pronotal and elytral dark markings are evanescent, and the appendages are dark reddish-brown instead of black.

*Crossidius militaris* Bates. A series of over 50 adults was collected by the authors and R. L. Penrose on *Gutierrezia* sp. (prob. *lucida*) near White's City, New Mexico in October. Although individuals were found over a fairly wide area, they were much more abundant on the rocky hillsides than along the highway or in dry wash situations.

*Deltaspis cruentus* (LeConte). A series of this strongly dichromatic species was collected by F. T. Hovore and W. R. Icenogle in the rocky foothills near Winchester, Riverside County, California. All specimens were taken on the dried inflorescences of California Buckwheat (*Eriogonum fasciculatum* Benth.). A single male was collected by E. Giesbert from foliage of *Baccharis sergiloides* Gray in an arroyo near Rio San Telmo, Baja California, in August.

*Parevander xanthomelas* (Guerin). Linsley (1942, 1961) records the distribution of this attractive species as south and central Mexico and "from southern Mexico to Guatemala." We found it moderately abundant in October on *Verbescina encilioides* (Cav.) Benth. & Hook, in the southern Rio Grande Valley. It seems to be confined to the dry, upland areas of Hidalgo and Starr Counties, where it often occurs in company with *Manophorus laetus* LeConte.

*Chrotoma dunniana* Casey. A single adult of this rarely collected species was reared by us from the root crown of living *Condalia* (prob. *globosa pubescens* Jtn.) collected 30 miles N Mojave, Kern County. Larvae mine the center of the root, constructing a large, meandering gallery which is loosely packed with fine powdery frass and fecula. Pupation occurs in an enlarged portion of the gallery which the larva seals at both ends with a tight wad of shredded frass. Adults evidently emerge at about ground level. The larval workings of this species are very similar to those of the genus *Crossidius* LeConte.

*Holopleura marginata* LeConte. We reared numerous specimens from dead limbs of Big-cone Spruce (*Pseudotsuga macrocarpa* Vasey) collected near Ozena, Ventura County, California. It has previously been recorded

from various species of hardwoods (Linsley 1962b) and from Douglas Fir (Penrose & Westcott 1974).

*Dendrobias mandibularis mandibularis* Audinet-Serville. Specimens of this striking species were reared from dead branches of Hackberry collected near Pharr, Texas, and dead adults were found in decadent *Acacia* limbs near Brownsville. Pattern variation in our extensive series of material from southern Texas indicates that the subspecies *virens* Casey represents an inconsistent tendency for reduction of dark markings, primarily in males, and does not correlate with distribution or host preference.

*Stenosphenus lepidus* Horn. Although this species is common on flowers throughout southern Arizona, no larval hosts have been recorded. Numerous individuals were collected by the authors from dead branches of Hackberry in July in the Santa Rita Mountains, and several specimens have subsequently been reared from this host.

*Stenosphenus texanus* Knull. Adults of this species were beaten from branches of willow and collected from blossoms of *Acacia* and *Baccharis* by F. T. Hovore in the Davis Mountains, Texas. Several females were also taken sitting upon a branch of Mesquite, and a single male was cut from its pupal chamber in the branch.

*Enaphalodes seminitidus* (Horn). We have taken a large series of adults of this shining species at night from the trunks of declining Mesquite trees near Tucson, Arizona. Older trees display extensive cerambycid larval workings, probably primarily of this species, although several specimens of *Aneflus paracalvatus* Knull were also taken on the trees.

*Eustromula validum* (LeConte). This species has previously been recorded from *Prosopis*, *Cercidium* and *Parkinsonia* (Linsley 1963), and to this group may be added *Salix* sp. We found it locally abundant on the trunks and under bark of dying and dead willow trees along the Colorado River near Yuma, Arizona.

*Anelaphus inflaticollis* Chemsak. Larval work of this interesting species is widespread in Crucillo (*Condalia* sp.) bushes in the high desert regions of northeastern Los Angeles County. Larvae hollow-out the stems of their host, expelling frass and fecula through a linear series of round holes, thereby giving dead twigs a flute-like appearance. Prior to pupation, the larva chews a saddle-shaped girdle in the stem and retreats into a long pupal chamber below the girdle. Exposed girdles are tightly plugged with a wad of shredded frass. Pupation apparently occurs in the fall, and we collected teneral adults from their cells in January.

This species is closely related to *Anelaphus brevidens* (Schaeffer), from which it may be distinguished by the inflated pronotum of the male, shorter antennae in both sexes, and finer, less dense elytral punctation. Chemsak (1959) records the sex of the holotype as female, due to the very short antennae and generally broad facies. It is more likely a male, however, as females do not have an inflated-appearing pronotum, and have the antennae only about 1/2 as long as the body.

*Anelaphus debilis* (LeConte). This species was reared by us from dead Mesquite collected north of Rio Grande City, Starr County, Texas. The wood, once part of a fence, was heavily infested with bostrichid beetles, and the heartwood displayed past larval work of *Callona rimosa* (Buquet). Other longhorn species also reared from this wood were *Knulliana cincta*

*cincta*, *Stenosphenus dolosus* Horn, *Placosternus difficilis* (Chevrolat), and *Heterachthes nobilis* LeConte.

*Anelaphus moestus moestus* (LeConte). Linsley (1963) records the host of this species as *Juglans nigra*. A short series was beaten and reared by F. T. Hovore from dead oak in the Davis Mountains of western Texas.

*Anoplocurius incompletus* Linsley. A single female was collected at light by the authors in a dry wash 6 mi E Glamis, Imperial County, California. Linsley (1942) described this diminutive elaphidionine from a unique pair collected in southern Baja California.

*Poecilobrium chalybeum* (LeConte). We beat several specimens of this small, blue species from Mountain Mahogany blossoms, 3–5 mi S Fort Wingate, McKinley County, New Mexico. *Cercocarpus* is a new floral host, and the locality is a significant extension of the known range in the Rocky Mountain region. It was previously recorded from as far south as Colorado (Linsley 1964).

*Molorchus longicollis* (LeConte). This variable species is known to breed in a variety of hardwood shrubs, but Hardy & Preece's rearing record from Douglas Fir (1927) has long been considered an identification error. We have, however, reared *M. longicollis* from small branches of Douglas Fir gathered at Santa Rosa, Sonoma County, California, and from twigs of White Fir (*Abies concolor* Gord. & Glend.) in company with *M. eburneus* Linsley in the San Gabriel Mountains.

*Molorchus bimaculatus californicus* Linsley. This subspecies was reared by F. T. Hovore from dead Greenbark Lilac twigs collected in Placerita Canyon, Los Angeles County, and adults are often taken in spring on the blossoms of this plant. A single male, collected by F. T. Hovore in the Santa Monica Mountains, Los Angeles County, and apparently referable to this subspecies, has the integument wholly piceous.

*Phymatodes decussatus decussatus* (LeConte). This species has previously been recorded only from various species of oak, in which it is often very abundant. We reared a series from dead willow branches from Fort Tejon, Kern County, in company with *Phymatodes blandus blandus* (LeConte). No constant differences are apparent between our willow-reared material and those specimens examined from oak. The characters cited by Linsley (1964) for recognition of *P. decussatus australis* Chemsak are extremely variable in material from both hosts, and it is probable that this subspecies is only a pattern variety within the nominotypical populations.

*Phymatodes vilitatis* Linsley. This species, which commonly bores in smaller branches of Douglas Fir, was beaten by F. T. Hovore from White Fir in the Sierra Nevada near Lake Tahoe, and reared from Santa Lucia Fir (*Abies bracteata* D. Don) from Monterey County, California.

*Placosternus erythropus* (Chevrolat). This species is recorded (Linsley 1964) from the United States from but a single specimen from Alpine, Texas. We found it abundant and widespread in October in several different plant associations in western and southern Texas. Adults were collected from numerous species of flowering plants in a grove of *Sabal texana* Bece. near Brownsville; from *Condalia* blossoms in the dry uplands near El Sauz, Starr County; and from *Baccharis neglecta* at both Welder Wildlife refuge and 19 mi SE Dryden.



*Tanyochraethes tildeni* Chemsak and Linsley. Numerous adults were collected by the authors and R. L. Penrose from inflorescences of *Eriogonum multiflorum* Benth., 25 mi S Sarita, Kenedy County, Texas. No larval work was found in the roots of the *Eriogonum*, and it is probable that it is used only as an adult feeding or congregating host.

In our series, the amount of elytral pubescence is quite variable, often obscuring one or more of the normally denuded areas which comprise the pattern.

*Triodoclytus lanifer* (LeConte). Linsley (1964) records the hosts of this species as *Sambucus*, *Rhamnus* and *Pickeringia*. We reared it from dry, dead branches of Canyon Oak collected in the San Gabriel Mountains. Larvae construct long, meandering galleries down the center of the branch, similar to those of immatures of the tribe Purpuricenini. Larval development apparently extends over a considerable period of time, one specimen having emerged from wood which had been enclosed in a rearing container for over five years.

*Xylotrechus sagittatus chiricahuae* Chemsak. Pupae and teneral adults were cut by us from the lower trunk of a two-year dead coniferous tree (prob. *Abies* sp.) in the Huachuca Mountains. It was previously recorded only from *Pinus chihuahuana* in the Chiricahua Mountains, Cochise County, Arizona.

*Xylotrechus quercus* Schaeffer. A long series of pupae and adults was collected by F. T. Hovore and D. G. Marqua in and under the thick bark of a standing dead oak tree near Peña Blanca Lake in southern Arizona. Larval habits are very similar to those of *X. nauticus* (Mannerheim) as summarized by Linsley (1964).

*Rhopalophora angustata* Schaeffer. Large numbers of this rare species, plus several specimens of *R. laevicollis* (LeConte) were beaten by R. L. Penrose and the authors from foliage of *Baccharis neglecta* and dead branches of *Celtis* and *Pithecelobium* at Welder Wildlife Refuge in early October.

*Rhopalophora prorubra* Knull. We collected a number of specimens of this peculiar Arizonan species from blossoms of *Condalia* in the Santa Rita Mountains in July. It has also been taken from blossoms of Mulefat (*Baccharis glutinosa* Pers.) by E. Giesbert and from *Mimosa* sp. by A. E. Lewis in Box Canyon, Pima County.

*Rhopalophora longipes meeskei* Casey. Although adults of this subspecies are commonly collected from flowers, nothing has been recorded regarding possible larval hosts. A single male was taken from its pupal cell in *Pinus* sp. in the Chiricahua Mountains (C. E. Langston, pers. comm.), and a mating pair was beaten from *Pinus cembroides* Zucc. by F. T. Hovore in Big Bend National Park, Texas.

*Rhopalophora bicolorella* Knull. Specimens apparently referable to this variable species were beaten and reared by us from twigs of willow at Amado, Santa Cruz County, Arizona. The willow-associated specimens differ from typical *bicolorella* in that the head is entirely reddish, thereby running them to *R. angustata* in Linsley's (1964) key. They do not, however, agree with our long topotypical series of that species, and seem to be structurally closer to *bicolorella* than to any other described species. There appears to be some overlapping of pronotal and elytral characters between

species, and more host-associated material, particularly from northern Mexico, is needed to help clarify relationships in this section of the genus.

#### LAMIINAE

*Trichastylopsis albidus* (LeConte). We have beaten and reared this cryptically-colored species from Cottonwood (*Populus fremonti* Wats.) at Yuma, Arizona. It has previously been recorded only from southeastern Arizona and New Mexico (Dillon, 1956). It may, however, be much more widely distributed than has been assumed, as C. E. Langston (pers. comm.) has taken what he believes to be this species on Cottonwood near Bakersfield, Kern County, California.

*Astyleiopus variegatus* (Haldeman). A single specimen of this common eastern species was taken at light in Madera Canyon, Santa Cruz County, Arizona, by F. T. Hovore in July. Dillon (1956) lists the westernmost localities as College Station, Texas and Salt Lake City, Utah. The Arizona specimen does not appear to differ significantly from eastern material examined.

*Sternidocinus barbarus* (Van Dyke). We reared a large series of this rare species from thick bark of dead Coast Live Oak collected in the San Gabriel Mountains. Larvae mine the cambium layer and inner bark surface, packing their flat, meandering galleries with fine, shredded frass. Prior to pupation, the larva constructs an oval pupal cell up inside the bark, similar to those constructed by members of the genus *Acanthocinus*. Additional specimens, collected at light, have been seen from the Santa Monica Mountains.

*Lochmaeocles marmoratus* Casey. This spectacular species is sporadically abundant in the major watersheds of southern Arizona. We have observed larval work in willow and cottonwood near Nogales, Amado and Green Valley along the Santa Cruz River, and along the San Pedro River in Cochise County. We collected a large series of adults from willow in the San Bernardino watershed east of Douglas as they crawled about the branches and trunks, and J. N. Knull (pers. comm.) took a series at a kerosene lantern trap, 5 mi N Nogales. A detailed and accurate account of the habits of this species has been published by Smyth (1934).

*Tigrinestola tigrina* (Skinner). Chemsak & Linsley (1966) record this species as having been beaten from oak and reared from Palo Verde (*Cercidium torreanum*) in southern Arizona, where it is also commonly taken at light. We collected numerous specimens in company with *Poliaenus negundo* (Schaeffer) while beating dead branches of Box Elder (*Acer negundo* L.) in the Huachuca Mountains.

*Tetraopes linsleyi* Chemsak. We collected a small series of adults from stems of *Asclepias subverticillata* (Gray) in Miller Canyon, Huachuca Mountains. Although both *T. discoideus* LeConte and *T. femoratus* LeConte were found on *Asclepias* plants growing nearby, neither occurred in the small stand in which the *T. linsleyi* were found. Nor were any *T. linsleyi* encountered in adjacent stands of milkweed, although considerable effort was made to locate additional specimens. The plants upon which they were taken were growing in a well-drained, loosely-compacted, rocky soil, while most other milkweed stands were in moist depressions along roads or in drainage canals. It is probable that the larval moisture requirements of *T. linsleyi* differ considerably from those of other *Tetraopes* species, as most locality records are from somewhat higher and generally drier areas than are typical for the genus.

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#### DESIGNATION OF A TYPE-SPECIES FOR *EFFLAGITATUS* PACHECO (COLEOPTERA: HETEROCERIDAE)

The generic name *Efflagitatus* was proposed in 1964 by Pacheco for a group of 7 species to which an eighth was added in 1969. All of the originally included names are valid and eligible to be designated as type-species, but through an oversight, a type-species was not designated. I hereby designate *Heterocerus assimilis* Grouvelle as type-species because it is the oldest name among those included.

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